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THE EFFECTS OF CONCLUSION OMISSION AND SALIENCE
OF CONSEQUENCES ON ATTITUDES AND MEMORY

by

Frank R. Kardes

M.I.T. Working Paper No. 1832-86
November 1986



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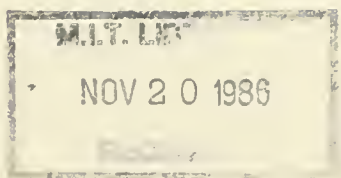
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Frank R. Kardes is Assistant Professor of Management Science, Sloan School of Management, Massachusetts Institute of Technology, Cambridge, MA 02139. The author wishes to thank Russ Fazio for providing guidance throughout the research project. Thanks are also extended to John Carroll, Jerry Chertkoff, Debbie Marlino, Richard Olshavsky, and Jim Sherman for their helpful comments on an earlier version of this manuscript. The present research was supported by a grant-in-aid from the Indiana University Graduate School.

Abstract

An experiment was conducted to investigate the relationship between inference and persuasion. Subjects were exposed to an advertisement in which the presence or absence of conclusions and the salience of the consequences associated with committing an inferential error were manipulated orthogonally. Subjects were more likely to generate omitted conclusions spontaneously and form favorable brand attitudes when consequences were salient. Further, when consequences were salient, more accessible attitudes were formed in implicit than in explicit conclusion conditions. Theoretical and managerial implications of these findings are discussed.

In designing persuasive communications, is it more effective to let recipients draw their own conclusions, or should communicators draw explicit conclusions for the recipients? Previous research addressing this issue has yielded mixed findings: some studies suggest that explicit conclusions lead to greater opinion change, whereas other studies suggest that implicit conclusions are more persuasive. The purpose of the present article is to resolve this inconsistency. In so doing, we hope to attain a clearer understanding of the relationship between inference and persuasion.

One way to reconcile conflicting findings is to review the studies that produced these outcomes. Close inspection of the various methodologies employed in these studies may provide clues to the solution of our problem. A relatively simple methodology was used in the classic Hovland and Mandell (1952) study. Subjects were exposed to a communication that described the general economic conditions in which devaluation of currency is desirable (e.g., large availability of goods, labor surplus) versus undesirable (e.g., shortage of goods, labor shortage). Later in the communication, it was demonstrated that current economic conditions in the U.S. matched the conditions under which devaluation is desirable. Finally, in explicit conclusion conditions, it was stated that devaluation of the American dollar is desirable. In implicit conclusion conditions, however, this statement was omitted. The results indicated that more favorable attitudes toward devaluation were formed in explicit than in implicit conclusion conditions.

One aspect of the Hovland and Mandell study that makes their data difficult to interpret is that they failed to administer separate measures of message comprehension and message acceptance. Thus, it is unclear whether conclusion explicitness influences message comprehension, message acceptance,

or both. In an effort to overcome this ambiguity, Fine (1957) conducted a conceptual replication in which multiple-choice items were employed to measure message comprehension, and attitude scales were employed to measure message acceptance. Although conclusion explicitness failed to influence message comprehension, message acceptance was greater in explicit than in implicit conclusion conditions.

Thistlethwaite et al. (1955) also took separate measures of message comprehension and message acceptance. Subjects were exposed to a communication supporting the conclusion that the U.S. was right to fight a limited war in Korea. Identical messages were presented to explicit and to implicit conclusion subjects, except that the conclusion was omitted in implicit conclusion conditions. Control subjects received a message that was irrelevant to the Korean war.

The results indicated that comprehension, as operationalized in terms of subjects' performance on a multiple-choice test, was greater in explicit than in implicit conclusion conditions. However, attitude change, as measured in terms of the change in scores on pre- and post-message attitude scales, was greater in explicit and implicit conclusion conditions than in the control condition. Attitude change did not vary as a function of conclusion explicitness.

Together, the studies reviewed so far imply that omitting conclusions is no more effective than presenting conclusions. This finding is somewhat surprising, however, given that there are several reasons for expecting implicit conclusions to be persuasive. For example, several studies have demonstrated that explicitly telling subjects about the positive qualities of an out-group individual is less effective in reducing stereotyping than

allowing them to learn about these qualities on their own (Cooper and Dinerman 1951, Marrow and French 1945, Stotland et al. 1959).

Another reason for expecting implicit conclusions to be persuasive is provided by studies showing that an influence agent is more persuasive if his intent to persuade is not obvious. A message is more persuasive if it is "overheard" by a recipient than if it is directed to the recipient (Walster and Festinger 1962). The hidden-camera technique in advertising seems to be based upon this principle.

Research on the "hard sell" versus "soft sell" approaches to advertising (Fox 1984, Ray and Sawyer 1971, Silk and Vavra 1974) also suggests that implicit conclusions may be effective. The "hard sell" approach involves explicitly telling message recipients what they should believe. Thus, the influence agent makes no attempt to disguise his intent to persuade, and as a consequence, reactance may be induced and the persuasion attempt may backfire (Brehm 1966, Clee and Wicklund 1980). This boomerang effect is much less likely to occur, however, when subtle "soft sell" tactics are employed.

Finally, Linder and Worchel (1970) found direct evidence for the effectiveness of implicit conclusions. In this study, subjects were exposed to a set of seven syllogisms having a vertical arrangement (i.e., the conclusion of one syllogism served as the first premise of the next one, Bem 1970, Jones and Gerard 1967). The propositions were presented sequentially, one at a time, and they led to the final conclusion that smoking cigarettes causes cancer.

Subjects were randomly assigned to one of three conditions. In high effort conditions, the communicator explicitly presented the conclusion of the first syllogism and subjects were asked to infer the conclusion of each

of the remaining six syllogisms. Immediately after subjects wrote a self-generated conclusion, the correct answer was provided. This procedure was employed to ensure that all subjects would be aware of the appropriate conclusions. In moderate effort conditions, subjects received three conclusions and were induced to draw four conclusions for themselves. In low effort conditions, subjects received five conclusions and were asked to generate only two conclusions. The results indicated that acceptance of the target conclusion (i.e., smoking cigarettes causes cancer) increased as effort increased.

Why were implicit conclusions persuasive in the Linder and Worchel (1970) study, but not in the Hovland and Mandell (1952), Fine (1957), and Thistlethwaite et al. (1955) studies? One plausible explanation for this disparity is that all subjects were aware of the conclusions in the Linder and Worchel study, whereas in the remaining studies, it is unclear whether or not implicit conclusion subjects ever reached the appropriate conclusions on their own. If subjects are insufficiently motivated to draw the appropriate conclusions, we cannot expect conclusion omission to be an effective persuasion technique. How, then, can we motivate subjects to draw conclusions? We know that subjects can be induced to draw conclusions by explicitly asking them to do so (Linder and Worchel 1970). Perhaps a more interesting and a more important question is how can we motivate subjects to draw conclusions spontaneously, that is, without prompting from an experimenter?

Spontaneous Inference Formation

Kruglanski's (1980, Kruglanski and Ajzen 1983) theory of lay epistemology provides a useful framework for addressing the issue of

spontaneous inference formation. According to this theory, one factor that influences the likelihood of spontaneous inference formation is the perceived cost of committing an inferential error. When perceived costs are high, an individual may exert high levels of cognitive effort in analyzing the available evidence and strive to draw valid inferences. When perceived costs are low, on the other hand, the individual may be less concerned about the validity of his inferences.¹ To test this hypothesis, Kruglanski and Freund (1983) asked subjects to play an educational betting game that involved choosing between conjunctive versus single events. Following an appropriate ruse, perceived cost was manipulated by telling subjects that their performance either would (high) or would not (low perceived costs) be evaluated. More subjects exhibited the conjunction fallacy (Tversky and Kahneman 1983) in low than in high perceived cost conditions. Thus, support was found for the hypothesis that individuals should be more likely to draw valid inferences as perceived costs increase. This suggests that as perceived costs increase, individuals may be more likely to carefully scrutinize the arguments presented in a communication and infer conclusions spontaneously.

The Present Study

In the present experiment, subjects were exposed to a series of filler print ads and a target ad for a new product (a compact disc player). Conclusion explicitness and salience of consequences were manipulated in the text of the target ad. Conclusion explicitness was manipulated by varying the presence or absence of conclusions and salience of consequences was manipulated by highlighting or not highlighting the consequences of committing an inferential error. A response-latency methodology was used to

investigate spontaneous inference processes and attitude formation. Brand attitude favorability, attitude accessibility, and purchase intentions were also measured.

Spontaneous Inference Formation

Previous research on conclusion-drawing has either failed to determine if subjects inferred conclusions (Hovland and Mandell 1952) or has employed multiple-choice measures of conclusion generation (Fine 1957, Linder and Worchel 1970, Thistlethwaite et al. 1955). Unfortunately, with multiple-choice items, it is not possible to determine if a conclusion was inferred while subjects read the persuasive message or if the conclusion became apparent later while subjects worked on the multiple-choice task. This ambiguity was avoided in the present research through the use of a response-latency methodology.

The distinction between retrieval and computational processes (Lichtenstein and Srull 1985, Srull 1984) is crucial for understanding the logic underlying the use of response-latency methodologies. Suppose an individual is asked to respond to an inquiry about a particular inference. If the inference had been formed prior to questioning, the individual may simply retrieve this inference from memory to answer the question. On the other hand, if the inference had not been formed prior to questioning, the individual is forced to compute an inference, on the spot, after receiving the question.

To elaborate, imagine that an individual is exposed to an advertisement pertaining to a technical product possessing a feature that competing brands lack. Further, suppose that the ad contained information that implied that this feature facilitates ease of use. If the consumer spontaneously

generates the conclusion that the target brand is superior on the "ease of use" dimension, he may retrieve this inference quickly and easily when subsequently asked about ease of use. On other hand, if this conclusion was not generated prior to questioning, the consumer would have to retrieve relevant information from memory and compute an inference on the spot. Given that the cognitive operations involved in computing an inference take time to perform, latency of response to the inquiry should be slower in the latter than in the former case.

This methodology has been applied successfully in previous research. For example, in a recent study on spontaneous attitude formation (Fazio et al. 1984), subjects were exposed to a set of novel attitude objects. In consolidation conditions, subjects were asked to complete standard paper-and-pencil attitude scales (Petty and Cacioppo 1981) for each of these objects. This task was designed to force subjects to consolidate information and form attitudes toward the objects. In no-consolidation conditions, however, subjects were not asked to perform this task and they either received (cue subjects) or did not receive (control subjects) a cue implying that it may be functional to form attitudes toward the novel objects.

The dependent measure was the latency with which subjects could respond to questions about their attitudes toward the novel objects. As expected, consolidation subjects responded much faster than control subjects. The critical comparisons, however, involved cue subjects. If cue subjects could respond as quickly as consolidation subjects, we can infer that cue subjects formed attitudes spontaneously prior to questioning. If cue subjects respond as slowly as control subjects, however, we can infer that the cue failed to prompt spontaneous attitude formation. The results indicated that the cue

was effective in eliciting spontaneous attitude formation.

A methodology similar to the one employed by Fazio et al. (1984) was used in the present study. The explicit and implicit conclusion conditions in the present study are analogous to Fazio et al.'s consolidation and no-consolidation conditions, respectively. It was predicted that explicit conclusion subjects should respond to inquiries about the relevant conclusions relatively quickly, because they can simply retrieve the conclusions that were provided to them. When consequences are non-salient, implicit conclusion subjects should respond to inquiries relatively slowly, because they did not receive the conclusions explicitly and they may have been unmotivated to generate the conclusions on their own. The critical comparisons, then, involve the implicit conclusion - salient consequences subjects. If these subjects can respond to the inquiries as quickly as explicit conclusion subjects, we can infer that the salience cue was effective in eliciting spontaneous inference formation. On the other hand, if these subjects respond as slowly as implicit conclusion - non-salient consequences subjects, we can infer that the cue was ineffective.

H1: Spontaneous conclusion generation may be more likely when consequences are salient than when they are non-salient. Specifically, latency of response to conclusion items may be slower in implicit conclusion conditions when consequences are non-salient than in implicit conclusion - salient consequences and explicit conclusion conditions.

Favorability of Attitudes Toward the Target Product

Much of the research that has been conducted on conclusion-drawing indicates that explicit conclusions can be very effective (Fine 1957, Hovland and Mandell 1952, Thistlethwaite et al. 1955). Presumably, explicit conclusions are likely to facilitate message comprehension, and, if the arguments are compelling, any variable that enhances comprehension should

also lead to opinion change. Thus, it was predicted that in explicit conclusion conditions, favorable attitudes toward the target product may be formed regardless of the salience of consequences.

Implicit conclusions, on the other hand, may be effective only when recipients are sufficiently motivated to infer the missing information on their own. One motivating variable, the salience of consequences, was investigated. When consequences are non-salient, subjects may fail to infer the conclusions and, hence, they may miss the point of the message and little persuasion may occur. Conversely, when consequences are salient, subjects may generate conclusions spontaneously and persuasion may occur.

Considerable evidence exists demonstrating that self-generated conclusions can exert a strong influence on attitudes (Greenwald 1968, Greenwald and Leavitt 1984, Petty et al. 1981, Petty and Cacioppo 1986, Wright 1980). If self-generated conclusions are persuasive, and if subjects are more likely to form self-generated conclusions in salient than in non-salient conditions, then more favorable attitudes may be formed in salient than in non-salient consequences conditions.

H2: When conclusions are omitted, more favorable attitudes may be formed in salient than in non-salient consequences conditions, whereas when explicit conclusions are provided, favorable attitudes may be formed regardless of salience of consequences.

Previous research on attitudes (for reviews see Fishbein and Ajzen 1975, Eagly and Chaiken 1984, McGuire 1985, Petty and Cacioppo 1986) and advertising effectiveness (for reviews see Alwitt and Mitchell 1985, Harris 1983, Percy and Woodside 1983, Sentis and Olson forthcoming) has focused almost exclusively on attitude favorability: other properties of attitudes have been largely ignored. Some neglected properties of attitudes, such as spontaneous attitude formation and attitude accessibility, are examined in

the present study.

Spontaneous Attitude Formation

It is well known that respondents can indicate their evaluations of an object or issue when they are explicitly asked to do so (e.g., when they are asked to fill out a standard paper-and-pencil attitude scale). However, it is unclear whether they are retrieving previously-formed attitudes or if they are simply computing "attitudes" on the spot. Further, it is difficult to identify these on-the-spot "attitudes" because people are often unwilling to indicate that they have no opinion even when a "no opinion" option is provided on an attitude scale (Converse 1970, Schuman and Presser 1981).

One way to determine whether or not an attitude was formed prior to the administration of a measuring instrument is to adopt a response-latency methodology. The Fazio et al. (1984) methodology was employed in the present study. In consolidation conditions, standard attitude scales were administered to prompt subjects to form attitudes toward the target product, whereas in no-consolidation conditions, no scales were given. Consolidation subjects may respond relatively quickly to subsequent attitudinal inquiries because they can simply retrieve previously-formed attitudes from memory. In no-consolidation conditions, however, those subjects who have to compute "attitudes" on the spot may respond slowly, whereas those subjects who formed attitudes spontaneously may respond as quickly as consolidation subjects.

Spontaneous attitude formation may be more likely when an individual believes that it would be useful to hold an opinion toward a given object (Katz 1960, Smith et al. 1956). For example, an individual may form an attitude that efficiently summarizes large, complex sets of information pertaining to a given object. Subsequently, when an evaluation of the object

is called for, the individual may find that retrieving a previously-formed attitude is much faster and easier than re-evaluating all of the available evidence. Such an attitude is very useful because it frees the individual from laboring over an unnecessary, redundant cognitive activity. On the other hand, an individual may be unlikely to form an attitude spontaneously when the benefits of doing so are not readily apparent.

H3: Spontaneous attitude formation may be more likely when consequences are salient than when they are non-salient. Specifically, latency of response to attitudinal inquiries may be slower in no-consolidation conditions when consequences are non-salient than in no-consolidation - salient consequences and consolidation conditions.

Attitude Accessibility

Attitude accessibility, or the readiness or ease with which an attitude can be retrieved from memory, was measured in terms of the speed with which subjects could respond to an attitudinal inquiry. Previous research, in which the strength of the association between an object and an evaluation was manipulated experimentally, has shown that latency of response decreases as the strength of the association increases (Fazio et al. 1982, 1983, 1986). Moreover, as attitude accessibility increases, the likelihood with which an attitude will influence perception and choice also increases (Fazio and Williams 1986).

Given that attitude accessibility is a critical step in the process by which attitudes guide behavior (Fazio 1986), it becomes important to identify the determinants of attitude accessibility. Some determinants, such as repeated activation and direct behavioral experience, have been identified (for a review see Fazio and Zanna 1981). Recent memory research suggests another determinant. Consider the finding that effortfully processed information is more memorable than less effortfully processed information

(Slamecka and Graf 1978, Tyler et al. 1979, and see Moore et al. 1986 for a replication in an advertising context). If ease of retrieval is related to likelihood of retrieval, effortful information processing may also influence the ease with which attitudes can be accessed from memory. Hence, attitudes formed on the basis of effortfully-derived conclusions may be more accessible than attitudes formed on the basis of conclusions that were simply read. To test this prediction, latency of response to attitudinal inquiries was examined. Analyses were performed in consolidation conditions only to ensure that attitude formation times were not confounded with attitude retrieval times.

H4: Attitudes formed on the basis of inferences that were effortfully-derived from a persuasive message may, subsequently, be more accessible from memory than attitudes formed on the basis of conclusions that were presented explicitly in the persuasive message.

Method

Design

A 2 X 2 factorial design with two levels of conclusion explicitness (explicit or implicit) and two levels of salience of consequences (salient or non-salient) was employed. In addition, two control variables were built into the design. Half of the subjects were asked to fill out standard attitude scales prior to the measurement of latency of response to attitudinal inquiries (evaluation latencies), whereas the remaining subjects completed the scales after the evaluation latency task. Further, latency of response to conclusion items (conclusion latencies) was measured prior to the measurement of evaluation latencies for half of the subjects, whereas for the remaining subjects, evaluation latencies were measured prior to conclusion latencies. Thus, the full design was a 2 (conclusion explicitness) X 2 (salience of consequences) X 2 (consolidation) X 2 (order) factorial. One

hundred and ninety-two undergraduates, who participated in partial fulfillment of a course requirement, were randomly assigned to conditions.

The Target Ad

The target ad featured a bold-print header, a picture of a compact disc player, and text describing the attributes of the target product (the CT-2000 Compact Disc player).

The Conclusion Explicitness Manipulation. The text contained three sets of arguments pertaining to three attributes of the target product. The first set implied the conclusion that "Inserting a disc is easy with the CT-2000" (item 1). The second set implied the conclusion that "The CT-2000 filters out sampling frequency distortions at less cost" (item 2). The third set implied the conclusion that "The CT-2000 reduces more distortion from surface irregularities than most CD players" (item 3). These three conclusions were stated explicitly in explicit conclusion conditions, whereas in implicit conclusion conditions they were omitted. The text was identical in all other respects. The text is presented in the Appendix.

The Salience of Consequences Manipulation. Bold-print headers were employed to manipulate salience of consequences. In salient consequences conditions, the header stated, "You Will Probably Own a Compact Disc Player Sooner Than You Think" and "Some CD Players are Very Bad and Some are Very Good." This header was designed to make it very clear that a poor decision can lead to aversive consequences.² In non-salient consequences conditions, on the other hand, the header was simply "Compact Disc Players." Such a header has no implications pertaining to the consequences of a poor decision.

Procedure

Subjects participated in groups of one to four. They were seated in

isolated cubicles so they could participate independently. Subjects were told that the study was an advertising study concerning the evaluation of various ads. They were given a folder containing four print ads and they were given one and a half minutes to read each ad (pilot testing revealed that all subjects could read the entire ad within this period of time). The target ad was presented last and after subjects read this ad, the ads were collected and removed. Next, response latency measures were taken, a questionnaire was administered, and finally, subjects were debriefed and thanked.

The Consolidation and Order Manipulations. Half of the subjects were asked to fill out standard paper-and-pencil attitude scales prior to the measurement of evaluation latencies (consolidation conditions), whereas the remaining subjects were asked to fill out these scales after the measurement of evaluation latencies (no-consolidation conditions). These scales were designed to prompt subjects to form attitudes toward each of the four advertised products. In addition, order of measurement of conclusion and evaluation latencies was counterbalanced.

Dependent Measures

Response Latency Measures. Response latencies to the three target conclusion items served as the primary measure of spontaneous inference formation. Statements appeared on a monitor (e.g., "CT-2000: Is inserting a disc easy?") and subjects were instructed to press a button labelled "Yes" if they believed the statement was true, or a button labelled "No" if they believed the statement was false. Both speed and accuracy in responding were stressed, but a greater emphasis was placed on accuracy. Trial onset started a clock, and the response stopped the clock. Latency of response was

recorded automatically by a microprocessor. To ensure that subjects understood the instructions and to eliminate short-term memory effects, the response-latency task was preceded by a series of five practice trials involving trivia that was irrelevant to the present study.

Nineteen filler items, pertaining to information that was stated explicitly in the filler ads, were included to prevent subjects from suspecting that the CT-2000 ad was the target ad. Half of the items were worded in the affirmative direction and half were worded in the negative direction. In addition, an item instructing subjects to "Press the Yes button" was included to provide a baseline latency to control for individual differences in overall response speed (Pachella 1974).

Latency of response to attitudinal inquiries was also measured. Each trial involved the presentation of the name of a product (e.g., "CT-2000"). Subjects were asked to press a button labelled "Like" if they liked the product, or a button labelled "Dislike" if they disliked the product. Again, speed and accuracy were stressed. Latency of response to the "Press the Yes button" and "Press the No button" items provided baseline latencies for "Like" and for "Dislike" responses, respectively. Two blocks of attitudinal items were presented.

Attitudinal Measures. Favorability of attitudes toward the target product was measured on standard attitude scales that were administered either before (consolidation) or after (no-consolidation) the evaluation latency task. Seven-point semantic differential scales, with end-points labelled "Very good" and "Very bad," were provided for each of the filler and target products. Seven-point semantic differential scales were also employed to measure evaluations of the filler and target ads, interest in seeking

additional information, and purchase intentions.

Manipulation Checks. The effectiveness of the header of the target ad was assessed by asking subjects, retrospectively, to indicate how characteristic each of two statements was of how they thought or felt while reading the target ad. One statement (i.e., "I thought about whether or not I would ever buy a compact disc player") was designed to measure the effectiveness of the message "You Will Probably Own a Compact Disc Player Sooner Than You Think" and one statement (i.e., "I thought about whether or not the CT-2000 was a good product") was designed to measure the effectiveness of the message "Some CD Players are Very Bad and Some are Very Good." Five-point scales, with end-points labelled "Extremely" (1) versus "Not at all characteristic of how I thought or felt" (5), were employed. A 2 (explicit or implicit conclusions) X 2 (salient or non-salient consequences) X 2 (consolidation or no-consolidation) X 2 (Order) between-subjects analyses of variance indicated that subjects were more likely to report having thought about whether or not they would ever buy a compact disc player in salient ($\bar{M} = 3.30$) than in non-salient ($\bar{M} = 2.85$) consequences conditions, $F(1, 176) = 4.26, p < .04$. Hence, the salience manipulation was effective. No other main effects or interactions were found.

A 2 X 2 X 2 X 2 analysis of variance performed on subjects' ratings of the extent to which they thought about whether or not the CT-2000 was a good product revealed no main effects and no interactions. Subjects were likely to report having construed the evaluative implications of the information provided in the target ad across all conditions (grand mean = 3.54). Hence, the self-report data imply that subjects may have formed attitudes spontaneously across all experimental conditions.

Results

Spontaneous Inference Formation

A response-latency methodology was employed to test for spontaneous inference formation.³ Response latencies to the "Press the Yes button" item were employed as baseline latencies to control for individual differences in overall response speed. A 2 X 2 X 2 X 2 analysis of variance performed on latencies to this item indicated that the treatments did not influence this baseline measure. Further, this measure was significantly related to conclusion latencies (p 's < .001, .02, .001, for the first, second, and third items, respectively) and explained a significant proportion of the variance. In addition, the appropriate answer to each of the target conclusion items was "yes" and, hence, latency of response to the "Press the Yes button" item was employed as a covariate in all subsequent conclusion latency analyses.

Response latencies (in milliseconds) to the first conclusion item as a function of conclusion explicitness and salience of consequences are presented in the first row of Table 1. An a priori comparison revealed that conclusion latencies were slower in the implicit conclusion - non-salient consequences cell than in the remaining three cells, $t(157) = 2.17$, $p < .04$. Moreover, this contrast accounted for 70% of the between-subjects variance (Keppel 1973). The observed pattern of results suggests that spontaneous inference formation is more likely to occur in salient than in non-salient consequences conditions.

 Insert Table 1 about here

Response latencies to the second item as a function of conclusion explicitness and salience of consequences are presented in the second row of Table 1. Again, conclusion latencies were slower in the implicit conclusion - non-salient consequences cell than in the remaining three cells, $t(150) = 2.10$, $p < .04$. This contrast accounted for over 99% of the between-subjects variance.

Response latencies to the third item as a function of conclusion explicitness and salience of consequences are presented in row three of Table 1. The predicted contrast was not significant, $t(159) = .15$, ns. This item may have been too difficult to permit spontaneous inference formation to occur during the brief period of time in which subjects were exposed to the target ad, or, perhaps, subjects may form fewer and fewer spontaneous inferences in the latter parts of a relatively lengthy text. Indirect support for the latter explanation is provided by text comprehension studies showing that propositions located near the beginning of a text are processed more extensively than later items (Cirilo and Foss 1980, Manelis 1980).

Response latencies to the three conclusion items were averaged and an a priori contrast performed on this index (Cronbach's $\alpha = .58$, $p < .001$) revealed that conclusion latencies were slower in the implicit conclusion - non-salient consequences cell than in the remaining three cells, $t(188) = 2.30$, $p < .03$. Further, this contrast accounted for 87% of the between-subjects variance. Thus, considered together, the conclusion latency data provide strong and consistent support for the hypothesis that spontaneous inference formation may be more likely in salient than in non-salient consequences conditions.⁴

Brand Attitude Favorability

Brand attitude favorability as a function of conclusion explicitness and salience of consequences is presented in Table 2. A 2 X 2 X 2 X 2 analysis of variance performed on subjects' attitude scores yielded a significant main effect for salience of consequences, $F(1, 176) = 6.77, p < .01$. Brand attitudes were more favorable in salient ($M = 5.59$) than in non-salient ($M = 5.04$) consequences conditions. No other significant main effects or interactions were found.

Insert Table 2 about here

The pattern of results found on brand attitude favorability was very similar to the pattern found on spontaneous inference formation. Brand attitudes tended to be favorable in explicit conclusion conditions, regardless of salience of consequences (M 's = 5.54 vs. 5.21, ns). When conclusions were omitted, however, more favorable brand attitudes were formed when spontaneous inference formation was likely than when spontaneous inference formation was unlikely (M 's = 5.65 vs. 4.88, $p < .05$, for salient vs. non-salient consequences conditions, respectively). This pattern of results supports the hypothesis that conclusion omission may be effective only when recipients are likely to infer the missing information spontaneously.

Brand attitude favorability was strongly related to interest in acquiring additional information about the target product, $r = .41, p < .001$, and to purchase intentions, $r = .42, p < .001$. As attitudes toward the target product increased in favorability, interest in information acquisition

and purchase intentions increased.

Attitude favorability toward the target ad was also analyzed. Attitudes toward the target ad were more favorable in salient ($\bar{M} = 4.72$) than in non-salient ($\bar{M} = 4.21$) consequences conditions, $F(1, 176) = 4.22$, $p < .05$. No other main effects or interactions were found.

Spontaneous Attitude Formation

Investigating spontaneous attitude formation involved analyzing evaluation latencies that were averaged across blocks (Cronbach's $\alpha = .61$, $p < .001$).⁵ To control for individual differences in overall response speed, latency of response to the "Press the Yes button" and the "Press the No button" items served as baseline latencies. A $2 \times 2 \times 2 \times 2$ analysis of variance performed on "Yes" latencies yielded no significant main effects or interactions. However, "No" latencies were faster when conclusion latencies were measured prior to evaluation latencies ($\bar{M} = 2431$) than when evaluation latencies were measured prior to conclusion latencies ($\bar{M} = 2637$), $F(1, 150) = 7.66$, $p < .01$. No other significant main effects or interactions were found. In all subsequent analyses on evaluation latencies, "Yes" latencies served as the covariate for subjects who pressed the "Like" button for the target product, whereas "No" latencies served as the covariate for subjects who pressed the "Dislike" button.

A methodology involving the comparison of evaluation latencies of subjects known to have formed attitudes (i.e., consolidation subjects) to evaluation latencies of subjects who were not explicitly instructed to form attitudes (i.e., no-consolidation subjects) was employed. To identify the conditions under which spontaneous attitude formation is likely to occur, the consolidation manipulation must be effective. However, in the present study,

the evaluation latencies of no-consolidation subjects ($\bar{M} = 2441$) were as fast as the evaluation latencies of consolidation subjects ($\bar{M} = 2400$), $F < 1$. Thus, high levels of spontaneous attitude formation may have occurred across all experimental conditions and, hence, the conditions necessary to test for spontaneous attitude formation were not present.

The absence of a consolidation effect is consistent with the finding that subjects reported having engaged in relatively high levels of thinking about the attitudinal implications of the information presented in the target ad (see the manipulation checks). This pattern of results implies that the time required to respond to attitudinal inquiries may not have been influenced by the the time required to form attitudes because most subjects may have formed attitudes prior to the measurement of evaluation latencies.

A 2 X 2 X 2 X 2 analysis of covariance performed on evaluation latencies yielded a marginally significant conclusion explicitness by salience of consequences interaction, $F(1, 149) = 2.91$, $p < .09$, and a marginally significant conclusion explicitness by order interaction, $F(1, 149) = 3.68$, $p < .06$. No other significant main effects or interactions were found.

Evaluation latencies as a function of conclusion explicitness, salience of consequences, consolidation, and order are presented in Table 3. When consequences were salient, evaluation latencies tended to be faster in implicit ($\bar{M} = 2283$) than in explicit ($\bar{M} = 2561$) conclusion conditions, whereas when consequences were not salient, evaluation latencies tended to be faster in explicit ($\bar{M} = 2369$) than in implicit ($\bar{M} = 2462$) conclusion conditions. Further, when conclusion latencies were measured prior to evaluation latencies, evaluation latencies tended to be faster in explicit ($\bar{M} = 2345$) than in implicit ($\bar{M} = 2458$) conclusion conditions, whereas when

evaluation latencies were measured prior to conclusion latencies, evaluation latencies tended to be faster in implicit ($M = 2282$) than in explicit ($M = 2586$) conclusion conditions.

 Insert Table 3 about here

Attitude Accessibility

Attitude accessibility was investigated by analyzing evaluation latencies in consolidation conditions only to avoid confounding attitude formation times with attitude retrieval times. Again, evaluation latencies were averaged across blocks (Cronbach's $\alpha = .56$, $p < .001$).

Attitude accessibility as a function of conclusion explicitness and salience of consequences is presented in Table 4. As Table 4 indicates, attitudes were more readily accessible from memory in the implicit conclusion - salient consequences cell than in the remaining three cells, $t(79) = 1.98$, $p < .05$. This contrast accounted for 85% of the between-subjects variance. This pattern of results suggests that more accessible attitudes are formed in conditions under which spontaneous inference formation is likely.

 Insert Table 4 about here

Discussion

When a high premium is placed on an inferential outcome (e.g., when the perceived costs of committing an inferential error are high), consumers are likely to carefully consider the implications of the claims presented in a persuasive message and spontaneously infer important omitted information. On

the other hand, when the consequences of committing an inferential error are not salient, consumers appear to follow a cognitive miser or least effort principle (Langer 1978, Taylor and Crocker 1981). That is, consumers are unwilling to engage in effortful information processing when the benefits to be derived from such an exercise are not salient.

The pattern of results found on attitude favorability was very similar to the pattern found on spontaneous inference formation. When conclusions were omitted, more favorable brand attitudes were formed in salient than in non-salient consequences conditions. Thus, conclusion omission is effective only in conditions under which consumers are likely to infer conclusions spontaneously. When conclusions were presented explicitly, on the other hand, salience of consequences did not influence brand attitude favorability.

It should be noted that spontaneously inferred conclusions may not always lead to the formation of favorable attitudes. Consumers often spontaneously draw unfavorable conclusions about a product and unfavorable attitudes are likely to be formed on the basis of these conclusions. In the present study, however, subjects were exposed to information having only favorable implications for the target product and, hence, favorable conclusions and attitudes were formed.

A response-latency methodology was employed to determine what cues prompt spontaneous attitude formation. Unfortunately, the evaluation latency data do not permit a test of spontaneous attitude formation. No-consolidation subjects exhibited evaluation latencies that were as fast as the latencies exhibited by consolidation subjects. Thus, although all subjects received a non-brand evaluation set (i.e., they were instructed to evaluate the ad), they seemed to form brand attitudes quite readily. Perhaps

it is not possible to evaluate an ad without evaluating the advertised brand. If so, alternatives to the commonly employed ad-evaluation set should be investigated in future research on process models of advertising.

Attitude accessibility, or the readiness with which an attitude can be retrieved from memory, tended to be greater in implicit conclusion - salient consequences conditions than in the remaining conditions. This finding is consistent with the fundamental principles of associative memory (Anderson and Bower 1980, Bettman 1979, Raaijmakers and Shiffrin 1981). When individuals think about the relation between a given object and a given evaluation, an associative link between the object and the evaluation is formed in memory. As the amount of cognitive effort involved in thinking about this relation increases, the strength of the associative link between the object and the evaluation increases. The present data indicate that individuals are motivated to exert a relatively high amount of cognitive effort in thinking about the relation between an object and an evaluation when conclusions are omitted and when consequences are salient. Attitudes formed on the basis of self-generated - and thus, confidently-held - conclusions are subsequently more accessible than attitudes formed on the basis of less compelling evidence.

Managerial Implications

The results of the present study have several implications for advertising management. First of all, the decision of whether or not to explicitly present a conclusion to a persuasive message should be based upon careful consideration of whether or not message recipients are likely to be motivated and able to draw the appropriate conclusion spontaneously. It may be relatively easy to induce consumers to draw conclusions for themselves for

some product categories (e.g., highly involving products), but not for others. When spontaneous inference formation is likely, omitting the conclusion is likely to be more effective (in terms of attitude accessibility) than presenting the conclusion. On the other hand, when spontaneous inference formation is unlikely, explicitly presenting the conclusion is likely to be more effective (in terms of attitude favorability).

Advertisers have long recognized that consumers are often unwilling to attend to the contents of an ad. In an attempt to deal with this problem, various attention-drawing tactics have been adopted (Kisielius and Sternthal 1984, 1986; MacKenzie 1986). However, the results of the present study suggest that capturing the attention of consumers is not enough: consumers may attend to an ad, and yet fail to consider the implications of the information conveyed in the ad. One way to induce consumers to consider the judgmental implications of advertising claims is to highlight the personal consequences of a purchase decision. This can be achieved by stressing the personal relevance of the purchase decision and by emphasizing the importance of drawing accurate inferences. One way to accomplish this is to encourage recipients to imagine themselves using the product in the near future and to emphasize that the various brands within the product class can be characterized as occupying a wide range of positions along an important dimension (e.g., quality). Even though consumers may be well aware of this information, enhancing its salience may have a large impact on judgment and choice.

The results also suggest that focusing on attitude favorability and ignoring other properties of attitudes can lead to inaccurate inferences on

the part of researchers. For example, in the present study, equally favorable attitudes were formed in implicit and in explicit conclusion conditions when consequences were salient. Thus, relying solely on standard attitude scales would lead researchers to infer that equivalent attitudes were formed in these two conditions. However, the evaluation latency data reveal that subjects' attitudes differed in a very important way: more accessible attitudes were formed in implicit than in explicit conclusion conditions, when consequences were salient.

Considered together, the results of the present study indicate that relatively simple text manipulations can be used to influence the processing objectives of advertising recipients. For example, the goal of forming accurate inferences can be induced by highlighting the personal relevance of a message and by reminding recipients that forming inaccurate inferences may lead to aversive consequences. Moreover, the present study indicates that processing objectives play a prominent role in determining the information processing strategies that individuals are likely to employ while viewing advertisements and in influencing the nature of the attitudes that are formed on the basis of advertising claims.

Footnotes

1. The astute reader may have noted that Kruglanski's formulation is somewhat similar to the Elaboration Likelihood (Petty and Cacioppo 1986) and Heuristic (Chaiken 1980) models of persuasion. Although all of these frameworks are relevant to the present study, we focused on the Kruglanski model because of its emphasis on spontaneous inference processes and on the specific contents of inferences. Rather than assigning inferences to global favorable or unfavorable categories (e.g., support- or counter-arguments), the Kruglanski model and the present study focuses on specific conclusions.

2. The name Consumer Reports was used to enhance the credibility of the salience manipulation, even though commercial use of this name is prohibited. Because our focus was on the processes mediating salience effects, it was important to ensure that the manipulation would be effective.

3. Although speed and accuracy were stressed in the instructions, the conclusion latency task was rather difficult and subjects sometimes made errors. Separate 2 X 2 X 2 X 2 analyses of variance were performed on the number of errors committed on each item to determine whether or not error rates varied across conditions. Errors were operationalized as the failure to respond to a target conclusion item within the allotted time of 7 seconds or as pressing the button labelled "No" (the appropriate answer to each of the target conclusion items was "Yes"). No significant main effects or interactions were found. Hence, error rates were distributed evenly across conditions for each item (overall error rates were 15.1%, 19.8%, and 16.1% for the first, second, and third items, respectively). Response latencies for the items on which errors were committed were deleted from all subsequent analyses on conclusion latencies.

4. To assess the effects of the control variables on conclusion latencies, a 2 X 2 X 2 X 2 analysis of covariance was performed on conclusion latencies. A marginally significant conclusion explicitness by salience of consequences interaction was found, $F(1, 175) = 3.11$, $p < .08$. No other main effects or interactions were found. Hence, the control variables did not influence conclusion latencies.

5. A 2 X 2 X 2 X 2 analysis of variance was performed on error rates to determine whether or not error rates varied across conditions. Errors were operationalized in terms of the failure to respond within 7 seconds or in terms of inconsistent responding (i.e., pressing the good/bad button in the first block and the bad/good button in the second block). Error rates were evenly distributed across conditions. Response latencies for the items on which errors were committed were deleted from all subsequent analyses on evaluation latencies.

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TABLE 1

CONCLUSION LATENCIES AS A FUNCTION OF CONCLUSION
EXPLICITNESS AND SALIENCE OF CONSEQUENCES

Conclusion items	Explicit conclusion		Implicit conclusion	
	Salient consequences	Non-salient consequences	Salient consequences	Non-salient consequences
Item 1	4640 (<u>n</u> =41)	4593 (<u>n</u> =39)	4620 (<u>n</u> =41)	4983 (<u>n</u> =40)
Item 2	3885 (<u>n</u> =37)	3832 (<u>n</u> =39)	3640 (<u>n</u> =42)	4112 (<u>n</u> =36)
Item 3	5029 (<u>n</u> =37)	4855 (<u>n</u> =41)	4809 (<u>n</u> =42)	4886 (<u>n</u> =38)
Overall mean	4520 (<u>n</u> =48)	4503 (<u>n</u> =48)	4413 (<u>n</u> =48)	4722 (<u>n</u> =48)

Note: The conclusion latency means (in milliseconds) are adjusted for the covariate.

TABLE 2

BRAND ATTITUDE FAVORABILITY AS A FUNCTION OF
CONCLUSION EXPLICITNESS AND SALIENCE OF CONSEQUENCES

	Explicit conclusion	Implicit conclusion
	<hr/>	
Salient consequences	5.54 _a	5.65 _a
Non-salient consequences	5.21 _{a b}	4.88 _b

Note: n per cell = 48. Higher numbers indicate more favorable attitudes. Means with different subscripts differ significantly at the .05 level.

TABLE 3

EVALUATION LATENCIES AS A FUNCTION OF CONCLUSION EXPLICITNESS,
SALIENCY OF CONSEQUENCES, CONSOLIDATION, AND ORDER

	Explicit conclusion		Implicit conclusion	
	Salient consequences	Non-salient consequences	Salient consequences	Non-salient consequences
Conclusion latencies measured prior to evaluation latencies				
consolidation	2435 (<u>n</u> =9)	2266 (<u>n</u> =12)	2315 (<u>n</u> =11)	2436 (<u>n</u> =11)
No-consolidation	2336 (<u>n</u> =11)	2369 (<u>n</u> =11)	2589 (<u>n</u> =11)	2492 (<u>n</u> =11)
Evaluation latencies measured prior to conclusion latencies				
consolidation	2630 (<u>n</u> =10)	2563 (<u>n</u> =11)	2031 (<u>n</u> =9)	2504 (<u>n</u> =10)
No-consolidation	2828 (<u>n</u> =11)	2270 (<u>n</u> =9)	2098 (<u>n</u> =8)	2418 (<u>n</u> =11)

Note. Means are adjusted for the covariate.

TABLE 4

ATTITUDE ACCESSIBILITY AS A FUNCTION OF CONCLUSION
EXPLICITNESS AND SALIENCE OF CONSEQUENCES

	Explicit conclusion	Implicit conclusion
Salient consequences	2550 (<u>n</u> =19)	2181 (<u>n</u> =20)
Non-salient consequences	2379 (<u>n</u> =23)	2477 (<u>n</u> =21)

Note. Means are adjusted for the covariate.

You Will Probably Own a Compact Disc Player Sooner Than You Think.

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Compact Disc players are becoming more and more affordable. The average price of CD players has dropped over 50% during the past two years.

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The CT-2000 also features a horizontal disc load, a current track display, and a motorized drawer.

Other CD players lack a motorized drawer. Inserting a disc is difficult without one. Inserting a disc is easy with the CT-2000.

All CD players require digital filters, because the decoding of digital sound creates sampling frequency distortions that must be filtered out. Digital filters are

expensive and each filter accounts for a large portion of the total price.

One advanced filter is sufficient for filtering out sampling frequency distortions and two less advanced filters are no better than one advanced filter. One advanced filter costs less than two less advanced filters. Most CD players have two less advanced filters. The CT-2000 has one advanced filter. The CT-2000 filters out sampling frequency distortions at less cost.

Best of all, the CT-2000 brings you a sophisticated laser technology. The purpose of lasers is to reduce distortion from dust and scratches. Most CD players have one laser. The CT-2000 has three. The CT-2000 reduces more distortion from surface irregularities than most CD players.

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